5092

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ORIGINAL

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: ~~SW.~~ Alaska

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 42-B 5092

LOCALITY

Kenai Peninsula

~~South of Nuka Island~~

Approaches to Nuka Bay and Passage

19 30

CHIEF OF PARTY

F. B. T. Siems

U. S. GOVERNMENT PRINTING OFFICE: 1930

5092

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5092

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 42-B

REGISTER NO. 5092

State ~~SOUTHWEST~~ ALASKA

General locality KENAI PENINSULA

Locality ~~SOUTH OF NUKA ISLAND~~ Approaches to Nuka Bay and Passage

Scale 1/40,000 Date of survey JULY ~~& AUGUST~~ to Sept, 19~~2~~30

Vessels DISCOVERER & WESTDAHL

Chief of Party F. B. T. SIEMS

Surveyed by F.B.T. SIEMS & L.D. GRAHAM

Protracted by IRA R. RUBOTTOM

Soundings penciled by IRA R. RUBOTTOM

Soundings in fathoms ~~feet~~

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by L. D. Torrey

Verified by L. D. T.

Instructions dated MARCH 21, 19~~2~~30

Remarks:

GPO

DESCRIPTIVE REPORT

to

Accompany Hydrographic Sheet No. 42-B

STR. DISCOVERER Project #57

Season 1930

DATE OF INSTRUCTIONS: March 21, 1930.

LIMITS:

This sheet covers the area south of Nuka Island, and extends westward from a point about 3 miles south of Pye Islands to a point about 1-1/4 mile southeast of Point Gore. It is joined by sheet 81 on the southeast, and sheet 42-A on the northeast. Sheet 43 joins it on the southwest, and sheets 23 and 24 join it on the northwest.

CONTROL:

Three point fixes were used throughout on this sheet. Signals used were located by triangulation or topography with the exception of signals LIGHT and NEED, which were located from sextant cuts. (See list of signals in sounding record)

SURVEY METHODS:

The fathometer red light method was used for abtaining soundings, with vertical casts taken every 10 square miles or less.

A number of small shoals were encountered within a radius of about 3 miles from the southern end of Nuka Island and off Point Gore. These were developed by a number of splits and cross lines by the DISCOVERER. Later all shoal areas were developed in more detail by the M.V. WESTDAHL taking wire soundings. This vessel was allowed to drift over most shoal spots with soundings taken as often as practicable in an effort to obtain the shoalest sounding possible. The shoalest soundings obtained in this manner agree very closely in most cases with shoal soundings obtained by the fathometer. Generally only a very few flashes on the fathometer would indicate the existance of these small shoals. In only one case was a noticable shoaler sounding obtained by wire. This was an 8 fathom sounding obtained about 1-3/4 miles southeast of the southern end of Nuka Island.

FATHOMETER:

A season's report, entitled "Report on Fathometer Corrections", includes the work done with the fathometer on this sheet.

COMPARISON WITH PREVIOUS SURVEYS:

Previous to the 1930 season no survey had been made over this area.

TIDAL DATA:

Tidal data used on this sheet were obtained from a portable automatic gauge in Nuka Passage.

Respectfully submitted,

Ira R. Rubottom

Ira R. Rubottom,
Aid, C.& G. Survey.

Approved and forwarded:

F.B.T. Siems

F.B.T. Siems, Chief of Party.

STATISTICS FOR SHEET 42-B.

DATE	DAY LETTER	VOL.	POSITIONS	SDGS.	MILES	BOAT USED
1930						
July 2	A	1	104	296	55	DISCOVERER
" 21	B	1	75	250	48	"
" 24	C	1	93	345	60	"
" 25	D	1	89	588	61	"
	D	2	59	404		
" 29	E	2	18	100	8	"
Aug. 12	F	2	74	429	59	"
" 13	G	2	124	665	69	"
" 15	H	3	26	175	14	"
" 20	J	3	50	290	30	"
" 21	K	3	30	160	16	"
" 22	L	3	125	671	57	"
" 23	M	4	64	384	39	"
" 25	N	5	56	56	15	WESTDAHL
Sept. 8	Q	5	17	20	2	"
" 9	R	5	173	190	9	"
" 10	S	5	186	186	27	"
			1320	5905	639	

Approval of Chief of Party

Sheet 42-B and accompanying records have been inspected and approved by me. Both the field work and office work were done under my supervision. On account of the irregular bottom with evidences of pinnacle rocks (8 fathoms in general depth 30 fathoms $1\frac{3}{4}$ miles east of South Rock, Nuka Island) it is recommended that areas within the 50 fathoms curve be wire-dragged. The 17fms. fathometer sounding vicinity of Lat 59°12' and Long. 150°56' should have been investigated.

F. B. T. Siems,
Chief of Party, C. & G. S.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 5092.
Approaches to Nuka Bay, Kenai Pen., Alaska.
Surveyed in 1930.
Instructions dated March 21, 1930 (Discoverer).

FATHOMETER SOUNDINGS and THREE POINT CONTROL.

Chief of Party - F. B. T. Siems.
Surveyed by - F. B. T. Siems and L. D. Graham.
Protracted and soundings plotted by - I. R. Rubottom.
Verified and inked by - J. D. Torrey.

1. Records.

The records conform to the requirements of the Hydrographic Manual. It would be very desirable and helpful if sudden jumps in depths would be O. Kd in the record to indicate that the sounding was not a stray. This applies in particular to cases where the recorded soundings show no gradual rise or fall between the recorded time interval, but where such rise was actually visible on the fathometer dial.

2. Specific Instructions.

The work conforms to the requirements of the specific instructions as to general spacing of lines and area covered. There are, however, numerous shoal indications where additional lines would have been very desirable. The more important of these will be mentioned under "Additional Work".

3. Depth Curves.

There is sufficient information to draw the usual depth curves.

4. Field Drafting.

The usual field plotting was completed as prescribed in the Hydrographic Manual and was found to be satisfactory.

5. Junctions with surveys.

a. Contemporary Work.

A satisfactory junction has been effected with all of the contiguous surveys. Considering the broken character of the bottom inshore of the 50 fathom curve, the agreement between overlapping soundings on this survey (fathometer work) and the adjoining surveys, comprising both fathometer soundings and vertical casts is excellent. It was this latter fact that lent authority to the numerous sudden shoalings indicated on this sheet, which uncorroborated by up and down soundings might have been looked upon as fathometer idiosyncracies.

b. Old Work.

1. H. 2853 (Surveyed in 1906).

This survey is on a 1-200,000 scale and is of a reconnaissance nature only. There are no critical depths involved and the work can therefore be superseded by the new survey insofar as the latter embraces the former.

2. H. 3805 (Surveyed in 1915).

A portion of this sheet falls within the limits of the new survey. The doubtful character of the work on this sheet has already been considered in detail in my review of H. 5087 and it is unnecessary to go into that again in this review. Suffice it to say that the new work adequately covers the overlapping portion of the old work and no critical depths being involved, the present survey should supersede that portion of the old survey that falls within its limits.

6. Sounding Line Crossings.

The sounding line crossings are satisfactory considering the irregularities in the bottom.

7. Additional Work.

The area inside the 50 fathom curve abounds in so many irregularities that to completely develop all indications would seem almost an endless piece of work and the result would still be uncertain as to whether or not the least depth had been obtained in each case. There is no question that the area needs a wire-drag examination and the writer is in whole-hearted agreement with the Chief of Party's recommendation in this respect.

Should drag work not be found feasible, then additional sounding work should be done over the more important indications. These can be determined by an examination of the smooth sheet. In this connection attention is called to the 20 fathom shoal on lat. 59-14.4 long. 150-47. This area has every indication of shoaler waters existing. The development made by the Westdahl was for the most part split lines in the ship's work to the northwestward. When the peak of the shoal was found to be further to the southeast that area should have been investigated.

8. Miscellaneous.

Attention is called to the 32 fathom sounding recorded between pos. 128 and 129D (Ship work) in lat. 59-10.5 long. 150-43.5. This sounding falls between an 85 and a 92 fathom sounding. The field party omitted this sounding on the strength of a confusion with the ship's head which was noted as 32° at this same time. This decision has been accepted by the reviewer but it is recommended that this area be investigated.

9. Reviewed by A. L. Shalowitz - October 1931.
Approved: A. M. Sobieralski. (Signed)

April 15, 1931

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 5092

Locality **Approaches to Nuka Bay and Passage, S. W. Alaska**

Chief of Party: **F. B. T. Siems in 1930**
Plane of reference is **mean lower low water reading**
5.0 ft. on tide staff at **Sunday Harbor, Port Dick**
19.2 ft. below B. M. 1
1.4 ft on tide staff #2 at Nuka Passage
13.8 **ft below B.M. 1**
7.0 ft. on tide staff at Chance Lagoon
21.3 ft. below B.M. 1

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

H. A. Marmer
Actg Chief, Division of Tides and Currents.